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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,033	10/15/2003	William B. S. McDougall	05918-337001 / VGCP No.	2181
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FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER RODRIGUEZ, RUTH C	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,033

Applicant(s)

MCDUGALL ET AL.

Examiner

Ruth C. Rodriguez

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 28, 30-32, 34, 38 and 43-46 is objected to because of the following informalities:

- Claims 28, 30-32, 34 and 43-46 contain terms that are written within parenthesis. It is unclear whether these claims are intended to have these limitations are part of the claims or not. The parenthesis should be removed if the terms are to be included as part of the claims. Otherwise, the terms should be eliminated from the claims.

Correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 23-34, 36, 40-46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka (US 5,515,583).

A woven hook fastener product including a fabric base (2) having ground yarns and comprising interwoven warp yarns and filling yarns extending respectively in warp and filling directions and hook filaments interwoven with the fabric base and forming hooks extending from one side of the fabric base for engagement with loops (Figs. 1-7, 9 and 11). Higashinaka fails to disclose that a preferred embodiment where the mean hook height is less than about 6.0 times a nominal diameter of the hook filaments. However, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have the hook filaments extend from a near side of the fabric base to a mean hook height of less than about 6.0 times a nominal diameter of the hook filaments since the range of mean hook height for example I varies from 1.3 mm to 3.6 mm and the nominal diameter of the hook filament is 0.2 mm (C. 11, L. 21-26) and when considering the lowest means hook height is less than about 6.0 (6.5), example 10 has a height of 2.0 mm and the nominal diameter of the hook filament is 0.34 mm (C. 11, L. 21-26) and when considering the lowest means hook height is less than about 6.0 (5.9) and example 11 has a height of 1.8 mm and the nominal diameter of the hook filament is 0.34 mm (C. 11, L. 21-26) and when considering the lowest means hook height is less than about 6.0 (5.3).

Higashinaka also discloses that:

- Each hook is formed by a severed hook filament loop extending out of the fabric base at two points separated by a span, measured along a line segment between

centers of the hook filament at a near surface of the fabric base, and wherein each hook has a stance ratio, defined as a ratio of the span of the hook to an overall height of the hook from the near surface of the fabric base, of at least 50 percent (Figs. 1-7, 9 and 11).

- The stance ratio is at least 55 percent (Figs. 1-7, 9 and 11).
- Each hook is formed by a severed hook filament loop extending out of the fabric base at two points separated in both warp and filling directions (Figs. 1-7, 9 and 11).

- The fabric base has an overall thickness, exclusive of the hook filaments, of less than about 0.010 inch (C. 5, L. 22-23).

- The fabric base has an overall thickness, exclusive of the hook filaments, that is less than the nominal hook filament diameter (C. 5, L. 22-23 and C. 6, L. 57-59).

- An overall thickness, as a sum of fabric base thickness and the mean hook height, of less than about 0.075 inch (C. 6, L. 8-10).

- The mean hook height is less than about 0.065 inch (C. 6, L. 8-10).
- The mean hook height is less than about 0.05 inch (C. 6, L. 8-10).
- The hook filaments are drawn nylon monofilaments (C. 6, L. 57-59).
- The hook filaments are each between about 0.0065 to 0.009 inch in nominal diameter (C. 11, L. 21-25).

- The ground yarns comprise multifilament yarns each having a denier of between about 60 and 140 (C. 11, L. 18-21 and 60-62).

A woven hook fastener product includes a fabric base (2) having ground yarns and comprising interwoven warp yarns and filling yarns extending respectively in warp and filling directions and hook filaments interwoven with the fabric base and forming hooks extending from one side of the fabric base for engagement with loops (Figs. 1-7, 9 and 11). The fabric base has an overall thickness, exclusive of the hook filaments, that is less than the nominal hook filament diameter (C. 5, L. 22-23 and C. 6, L. 57-59). Higashinaka fails to disclose that a preferred embodiment where the fabric base has an overall thickness, exclusive of the hook filaments, that is less than the nominal hook filament diameter. However, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have the fabric base having an overall thickness, exclusive of the hook filaments, being less than the nominal hook diameter since the range of overall thickness of the base fabric varies from 0.3 mm to 3.0 mm (as disclosed on C. 5, L. 22-23) and the nominal diameter of the hook filament is 0.34 mm (C. 11, L. 21-26) for example 10 and when considering the nominal diameter of the hook filament for example 10, the fabric base will have an overall thickness, exclusive of the hook filaments, that is less than the nominal hook filament diameter especially since the hook filaments are not being taken into consideration in for the overall thickness of the fabric base.

Higashinaka also discloses that:

- Each hook is formed by a severed hook filament loop extending out of the fabric base at two points separated by a span, measured along a line segment between centers of the hook filament at a near surface of the fabric base, and wherein each hook

has a stance ratio, defined as a ratio of the span of the hook to an overall height of the hook from the near surface of the fabric base, of at least 50 percent (Figs. 1-7, 9 and 11).

- The stance ratio is at least 55 percent (Figs. 1-7, 9 and 11).
- The fabric base has an overall thickness, exclusive of the hook filaments, of less than about 0.010 inch (C. 5, L. 22-23).
- An overall thickness, as a sum of fabric base thickness and the mean hook height, of less than about 0.075 inch (C. 6, L. 8-10).
- The mean hook height is less than about 0.065 inch (C. 6, L. 8-10).
- The hook filaments are each between about 0.0065 to 0.009 inch in nominal diameter (C. 11, L. 21-25).

The ground yarns comprise multifilament yarns each having a denier of between about 60 and 140 (C. 11, L. 18-21 and 60-62).

Higashinaka discloses a woven loop fastener having all the features mentioned above in paragraph 4 for the rejection of claims 1 and 2. Higashinaka fails to disclose that the overall thickness is less than about 0.0075 inch. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the overall thickness being less than about 0.0075 inch since a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Especially since the application does not provide any criticality to this dimension and adjusting the dimensions of loop fasteners

in order to obtain better engagement with its hook fastener counterpart is well known in the art.

Higashinaka also fails to disclose whether the pile yarns are in greige condition or unnapped condition. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the pile yarns of the woven loop fastener will either be in a greige condition or in an unnapped condition and that it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have the pile yarns in a greige or napped condition if one were to assume that the pile yarns disclosed by Higashinaka are in an unnapped condition or that the pile yarns in a unnapped condition if one were to assume that the pile yarns disclosed by Higashinaka are in an greige or napped condition because the Examiner takes official notice that the use of pile yarns in napped or greige condition and in an unnapped condition is well know in the woven loop fastener art.

4. Claims 35 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka in view of Reither (US 6,136,437).

Higashinaka discloses a woven loop fastener and a woven hook fastener having all the features mentioned above in paragraph 3 for the rejection of claims 24 and 40. Hagashinaka fails to provide the tenacity for the pile yarn filament and for the hook filament. However, Reither teaches a woven fabric made with filaments having a tenacity between 2.91 grams per denier to 4.28 grams per denier depending on the sample (Table 5 - PET). The filaments provide superior mechanical properties such as its breaking strength. Therefore, it would have been obvious to one having ordinary skill

in the art at the time the invention was made to have filaments with a tenacity of at least 4.0 for the loop fastener disclosed by Higashinaka by using the PET taught by Reither that has tenacity of 4.28 grams per denier. Doing so, provides a filament with superior mechanical properties such as its breaking strength.

5. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka in view of Suzuki et al. (US 5,294,469).

Higashinaka also fails to disclose the Gurley stiffness of the loop fastener and of the hook fastener. However, Suzuki also teaches that the loop fabric can have a stiffness of less than about 500 or 200 milligrams. This fabric is easy degradable. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a Gurley stiffness of less than about 500 or 200 milligrams and a Gurley stiffness of less than about 500 or 200 milligrams as taught by Suzuki for the hook or loop component disclosed by Higashinaka. Doing so, provides a fabric that is easily degradable.

6. Claims 39 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka in view of Love, III et al. (US 2005/0282452 A1).

Higashinaka discloses a woven loop fastener having all the features mentioned above in paragraph 3 for the rejection of claims 24 and 40. Higashinaka fails to disclose that the loop fastener has a basis weight being less than about 300 grams per square meter. However, Love teaches a woven loop fastener having fabric base having a weight between 3.91 oz per square yards (131 grams per square meter). This base fabric is stretchable. Therefore, it would have been obvious to one having ordinary skill

in the art at the time the invention was made to have a hook fastener or a loop fastener with a weight of about 300 grams per square meter for the loop fastener disclosed by Hagashinaka in accordance with the teachings of Love. Doing so, is well known in the hook and loop fastener art as taught by Love for stretchable fabrics.

Response to Arguments

7. Applicant's arguments filed 30 September 2005 have been fully considered but they are not persuasive.

8. The limitation "each hook being formed by a severed hook filament loop extending out of the fabric base" has not been considered because the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitations has not been given any patentable weight.

9. The Applicant argues that "the disclosure in one document of ranges of multiple variables is not itself a disclosure of every combination of possible values in each range, unless someone of ordinary skill would find such combinations to be necessarily disclosed, with sufficient specificity." This argument fails to persuade because the Examiner has revised the rejection to indicate that it will be obvious to have the specified ranges for claim 23 when the disclosure different embodiments is being taken into consideration as explained in detail above. Higashinaka discloses that for the example 1-4, 10 and 11, the ratio is between 5.3 to 6.5 which is less than about 6.0.

10. For claim 40, the Applicant argues that it is improper to match the base thickness disclosed in column 5 with the yarn diameters disclosed in columns 11 and 12. The Examiner fails to be persuaded by this argument because the dimensions being considered in column 5 include the thickness of the hook filaments. Therefore, when such dimension is being excluded from the fabric base it is obvious to one having ordinary skill in the art at the time the invention was made that the ratio can be obtained without resorting to the use of the upper or lower values.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, ■ See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maestral (US 3,083,737), De Brabander (US 3,943,981), Higashinaka (US 4,920,617), Okawa et al. (US 5,349,991 and US 5,745,961), Fink et al. (US 5,870,827), Hagashinaka (US 6,386,242), Kondo et al. (US 6,565,943) and Wang et al. (US 2002/0185182 A1) are cited to show state of the art with respect to woven loop fastener and woven hook fasteners having some of the features being claimed by the current application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth C Rodriguez whose telephone number is (571) 272-7070. The examiner can normally be reached on M-F 07:15 - 15:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (571) 272-7075.

Submissions of your responses by facsimile transmission are encouraged. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-6640.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Business Center (EBC) at 866-217-9197 (toll-free).

Ruth C. Rodriguez
Patent Examiner
Art Unit 3677

rcr
December 27, 2005



Thomas G. Hill
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